

Claims

- [1] A collet-type fitting for an aluminum conductor composite core reinforced cable, the cable having a composite core surrounded by a conductor, comprising:
- a. a collet having at least one lumen to receive the composite core of the cable;
 - b. a collet housing coincident with the collet, wherein the collet housing comprises a substantially mirror configuration to the collet to enable compression of the collet and wherein, the collet housing has an opening to expose the at least one lumen to enable the collet to receive the composite core of the cable; and
 - c. a compression element that couples with the collet housing, wherein the compression element compresses the collet inside the collet housing, and wherein compressing the collet exerts a compressive and frictional force on the composite core of the cable.
- [2] A collet-type fitting according to claim 1, further comprising a connecting element that couples two or more collet-type fittings together to form a collet-type splice.
- [3] A collet-type fitting according to claim 1, wherein the compression element further comprises a connector that couples the collet-type fitting to a structure to form a collet-type dead end.
- [4] A collet-type fitting according to claim 1, further comprising a connector that couples the collet-type fitting to a structure to form a collet-type dead end.
- [5] A collet-type fitting according to claim 1, wherein the collet is an elongated conical body having a first end and a second end, wherein the outer radius of the collet is larger at the first end.
- [6] A collet-type fitting according to claim 1, wherein a lumen extends concentrically along a length of the collet from the first end to the second end.
- [7] A collet-type fitting according to claim 6, wherein the lumen receives the composite core of the cable.
- [8] A collet-type fitting according to claim 1, wherein the collet is made from two or more sections.
- [9] A collet-type fitting according to claim 1, wherein the collet housing is a tube with a funnel-shaped interior that accepts the collet.
- [10] A collet-type fitting according to claim 1, wherein the compression element compresses the collet by pressing the collet into the collet housing.
- [11] A collet-type fitting according to claim 1, wherein the collet housing is made from steel.
- [12] A collet-type fitting according to claim 1, wherein the compression element is a compression screw that threads into the collet housing and wherein tightening the compression screw compresses the collet.

- [13] A collet-type fitting according to claim 1, further comprising an aluminum housing that couples with one or more collet-type fitting and electrically connects a conductor of a first cable with a conductor of a second cable.
- [14] A collet-type fitting according to claim 13, further comprising an aluminum filler sleeve coupled to the conductor on the cable and coincident with the aluminum housing to ensure that the electrical current is passed by the aluminum housing.
- [15] A method to splice together a first aluminum conductor composite core reinforced cable and a second aluminum conductor composite core reinforced cable, each cable having a composite core surrounded by a conductor, comprising:
- a. exposing a composite core of a first cable;
 - b. exposing a composite core of a second cable;
 - c. inserting the composite cores of the cables into separate collet-type fittings, the insertion process comprising:
 - i. inserting the composite core into a collet;
 - ii. compressing the collet to hold frictionally the composite core; and
 - d. coupling a connecting device to each of the separate collet-type fittings to hold the collet-type fittings together.
- [16] A method to splice according to claim 15, further comprising mating the collet with a collet housing.
- [17] A method to splice according to claim 15, wherein compressing the collet includes:
- a. threading a compression screw into the collet housing; and
 - b. tightening the compression screw to compress the collet into the collet housing.
- [18] A method to splice according to claim 15, further comprising slipping an aluminum housing over the splice to conduct electricity from the conductor of the first cable to the conductor of the second cable.
- [19] A method to splice according to claim 18, wherein the aluminum housing is crimped to one of the first cable, the second cable, or both the first cable and the second cable to keep the aluminum housing in place over the splice.
- [20] A method to splice according to claim 18, further comprising inserting an aluminum filler sleeve between the conductor of either the first cable or the second cable and the aluminum housing.
- [21] A method to terminate an aluminum conductor composite core reinforced cable, the cable having a composite core surrounded by a conductor, comprising:
- a. exposing a composite core of the cable;
 - b. inserting the composite core of the cable into a collet-type dead end fitting, the

insertion process comprising:

- i. inserting the composite core into a collet;
- ii. compressing the collet to hold frictionally the composite core;
- c. coupling a connector to the collet-type dead end fitting; and
- d. attaching the connector to a structure to physically terminate the dead end.

[22] A method to terminate according to claim 21, further comprising mating the collet with a collet housing.

[23] A method to terminate according to claim 21, wherein compressing the collet comprises:

- a. threading a compression screw into the collet housing; and
- b. tightening the compression screw to compress the collet into the collet housing.

[24] A method to terminate according to claim 21, further comprising slipping an aluminum housing over the dead end to conduct electricity from the conductor and over the collet-type dead end fitting.

[25] A method to terminate according to claim 24, wherein a jumper terminal is attached to the aluminum housing to conduct the electricity from the aluminum housing to the end user.

[26] A method to terminate according to claim 24, wherein the aluminum housing is crimped to the cable or to the connector to keep the aluminum housing in place over the splice.

[27] A method to terminate according to claim 24, further comprising inserting an aluminum filler sleeve between the conductor of the cable and the aluminum housing.